Oregon Business Review

Vol. VII JUNE 1948 No. 6

Study of Relation of Forests To Water Supply Needed

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Forest-influences research is the study of the interactions of forest conditions with climate and soil and water. It deals with all the uses and products of forest land. Forest land consists of soil and vegetation and may be managed to produce timber, forage for livestock and game animals, recreation, and water. Results of forest-influences research are used to guide management policies for the purpose of balancing such uses.

Our attention until recently has been focused on timber or on forage, without much regard for other crops. Water is actually the biggest forest crop, and of the most importance to the most people; but we have not done much about it because it is not a crop that provides a direct cash return to the land that produces it. We are only lately beginning to recognize water value and to be concerned about its production, quality, and distribution.

There is at present no organized study of forest-land conditions in Oregon with respect to water, with the sole exception of the Army Engineers' snow laboratory on the headwaters of Blue River in the Willamette National Forest. It is not possible to give a progress report; instead we can only state the problems as we see them and make a plea for their immediate consideration.

The values involved in water as a crop depend on its uses. A major use is irrigation. Over 1.25 million acres of farm land in Oregon is under irrigation. Another major use is for hydroelectric power. Oregon has an installed capacity of three-quarters of a million kilowatts, with 6.5 million capable of being developed, and an annual power production of 4 billion kilowatt hours. Oregon has a population of 1.5 million, whose average daily water requirements amounts to more than 100 million gallons. Commerce on the waterways of the Willamette and lower Columbia amounts to some 20 million tons annually. So water is of use, of great importance, and of high value to us.

Water has minus or nuisance values, too. As this is written we are experiencing a tremendous minus value, or loss, in the floods along the Columbia and Willamette. The loss includes damage to property, interruption

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Business Accounting Methods Affect Government Policy

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Bureau of Business and Economic Research

By PAUL W. ELLIS
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It is somewhat paradoxical to discuss dangers of inflation and dangers of deflation as though both exist at once, yet the economic psychology of the American people today is such that both of these have been worrying us simultaneously for at least a year and a half.

The *de*flationary tendency with its threat of unemployment has been very largely theoretical in most of the country, with notable exceptions in a very few of our large Pacific Coast cities. The *in*flationary tendency, on the other hand, has been a real problem in every American home and a less well-recognized threat to the future solvency of many American businesses.

In spite, however, of the practical difficulties with rising prices, it seems probable that the policies of business, labor, and government have been guided more by the theoretical problems of unemployment than by the real problem of inflation. Perhaps this is true because we have so recently had so much unemployment that we really know something about it. On the other hand, it has been a long time, if ever, since inflation represented a comparable problem.

In the last fifteen years, we have developed a fairly well-defined attitude or philosophy for dealing with such things as inflation and deflation. This philosophy has engendered much opposition and controversy, but it carries with it a program of *action* with which no program of *in*action can possibly compete in a crisis. We may or may not like this plan, but apparently there is no other program of *action* for us to consider.

There are four aspects of this subject which we shall consider here: (1) the essentials of this economic philosophy or body of thought; (2) the nature of government policy that would be required by this philosophy during a period of *de*flation; (3) the governmental policies appropriate under this thinking to a period of *in*flation; and (4) how these policies depend for their operation upon statistics provided in the financial statements of business, and how the methods used in busi-

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* An address before the Portland control of the Controllers Institute of America, Mar. 19, 1948.

Oregon Business Review
VOL. VII EUGENE, OREGON, JUNE 1948 NO. 6
Bureau of Business Research, School of Business Administration
University of Oregon
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Business Accounting Methods Affect Government Policy

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ness accounting have influenced government policies to the disadvantage of business.

I happen to believe that there are some essential errors in the assumptions upon which the philosophy rests, but for the present I am concerned with what it *is* rather than what is wrong with it.

The analysis runs something like this: At any particular level of national income, and at a given distribution of that income, there is a tendency for society to save a certain percentage of the total. We may appropriately assume that there is adequate investment opportunity for these savings. The analysis of the facts at any particular time will disclose that people with incomes in the lowest brackets will consume more than they earn. They are said to have negative savings. As higher income levels are examined, these negative savings diminish and are replaced by positive savings. At the highest income levels, we find that savings are greatest both absolutely and as a percentage of the average person's income.[1]

Except during periods of depression or recession, which this theory attempts to explain, both national income and savings will be increasing but the savings will be increasing faster than the income. If, for example, the income of all persons were to double, those at the lower income levels would have less of a tendency to spend more than they earn. A typical family with a $1,000 income in the earlier period would have spent about 103 per cent of its income.[2] That is, its spendings would have exceeded its income by $30. Another family with $2,000 of income in the earlier period would have saved $147, or 7 1/3 per cent of its income, but one with $4,000 would save about $373 or 18 2/3 per cent. And so, as we go on up the income scale, we find savings constituting an ever-increasing proportion of the income of individuals. In the hypothetical situation, after all incomes were doubled, the families that had been spending 103 per cent of their income would save 7 1/3 per cent; and those that had saved 7 1/3 per cent would save 18 2/3 per cent. The country as a whole might then save 20 per cent or more instead of 10 per cent.

Savings, plus spendings of individuals and government, necessarily constitute all of the national income. Accordingly, as national income increases, if savings constitute an increasing percentage of the total, spendings must constitute an ever-decreasing percentage of the same total. But such spendings are the same thing as effective consumer demand. Hence, though the demand for more goods and services increases, it increases at a slower rate than the savings which provide the capital to create additional goods and services. In time, therefore, according to this theory, expanding capital equipment must be faced by a market demand inadequate to consume its output. This situation would prevail generally and lead directly to unemployment and depression.

Let us look at the same process from another point of view. All of the money income that is distributed in the form of wages, interest, rent, and profits is a distribution of the value of the goods and services produced. The goods and services are therefore valued at an amount equal to the amount of money income so distributed (plus undistributed profits). To maintain stability, this purchasing power created and distributed must be used to purchase the goods and services which that purchasing power represents. Savings by their very nature can be used only to purchase machinery, plant expansion, and other similar items. These will be bought only as long as a profit may be expected from the investment. With the relative decline in demand for consumers' goods, the time must come when such profit can no longer be expected. When this time come, unwanted inventories are accumulated by retailers, wholesalers, and manufacturers as a result of a failure of sales to keep up with purchases. Temporary shutdowns curtail general purchasing power, which in turn makes it more difficult to dispose of both surplus inventories and current production. Such are the essentials of the philosophy.

In periods of *de*flation or unemployment, government policy, according to this philosophy, should require increasing the relative amount of income going to those who spend and decreasing the portion that would go to those who save. This might be done by decreasing taxes on the former and increasing taxes on the latter. Since low-income earners save nothing and high-income earners save much, this policy of taxation would mean reducing taxes on the former and increasing it on the latter. During part of the 1930s, this redistribution of purchasing power was carried on by the government's borrowing from the savers and paying to others less fortunate or less thrifty through various government projects. We have here the justification for deficit financing during periods of deflation or unemployment, but only during such periods.

During periods of *in*flation, one might expect opposite policies to be advocated, but that is only partly true. At such times it is essential, if inflation is to be avoided or stopped, to reduce the total money income after taxes in order to prevent its being used to buy more goods and services than exist. During World War II, that meant collecting heavy taxes especially from people with incomes from $1,000 per year to $5,000 per year. The political price of levying such taxes, as well as considerations of fairness, also required much higher taxes in the upper brackets and on corporations. Regardless of the cause of inflation, high taxes do have anti-inflationary

[1] For detailed results of a study of 1935-1936 incomes and savings, see National Resources Committee, *Consumers Expenditures in the United States*, Washington, 1939, p. 83.

[2] Approximate data from reference in note 17.

effect. This reasoning is the basis of President Truman's present opposition to tax reduction.

Bank credit might also be regulated under these policies, except that there may be little possibility of encouraging credit expansion during periods of deflation or depression. During inflation, on the other hand, credit restriction could be effective in the same direction as high taxes. At the present time, credit restriction could be anti-inflationary in the same manner as high taxes.

We come now to the fourth point, that is, how the methods used in business accounting influence these government policies to the disadvantage of business.

A year ago last December, Robert Nathan, in his much-publicized report to the C.I.O., stated that profits were dangerously high. By implication, though not by direct statement, the report indicated that wages in general should be increased 25 per cent without any price changes. While Mr. Nathan does not make government policy, the statistical pattern of his analysis is the same as that used in the formulation of such policy. In particular, his estimates of the "dangerously high" corporate profits followed the pattern regularly used by such private agencies as the National City Bank and the National Industrial Conference Board. The same kind of estimates is used for some purposes by the research agencies of the United States government. And the essential source materials for these estimates are the published financial reports of American corporations.

According to the Nathan estimates, American corporate profits after taxes, for the last quarter of 1946, were running at an annual rate of $14.9 billion, a rate that has since been revised to over $16 billion. According to President Truman's *Economic Report* of this year, the comparable 1947 figure is $17 billion, a figure more than double that for 1929. President Truman did not say that these profits were dangerously high, but his tax recommendations implied that they were higher than necessary.

From the point of view of many who are in a position to determine government policy and labor policy, these profits are unreasonably high: they are *prima facie* evidence either that wages are too low or that high prices should be blamed on corporate management, or both. That wages have increased by 150 per cent while profits after taxes have increased only 100 per cent is immaterial. These high wages are only money wages, the purchasing power of which has been undermined by rising prices. Accordingly, our wage estimates, but not our profits estimates, are frequently deflated for price changes. Other elements of our national income are not subjected to the same kind of scrutiny.

Only persons who are familiar with the *financial* affairs of business and industry realize the dangers of basing public policy, and business policy too, for that matter, solely upon the profits computations which characterize the usual operating statement. In the first place, there is the question of the so-called inventory profits. Many firms must plan to maintain about the same physical volume of inventory the year round, regardless of the changes in price. Probably most of the others end their fiscal years with about the same physical volume each year. If costs of sales are priced on the first-in, first-out method, profits will be higher during a period of rising prices (by about the amount of the price appreciation of the inventory) than if they are computed on the last-in, first-out method.

Many controllers are familiar with the arguments for and against these two methods of cost pricing, as well as variations of both methods. They often feel that they can make all of the necessary allowances for inventory revaluation without having to change their methods of computing profits. But when we add together the effects of the price changes on the inventories of all corporations, it amounts, in some conditions, to several billion dollars a year. The recent peak was in the first quarter of 1947, when it reached an annual rate of $8.6 billion. At that date, the profits figure which compares with Mr. Nathan's $14.9 billion for 1946 was $17.4 billion. A mere correction for inventory appreciation or revaluation reduces this to $8.8 billion, or about 50 per cent.

Looking at the matter one way, the accountants and controllers of the country are doing a public-relations job for business and industry. They are telling the country that profits amount to more than twice the 1929 peak. And to a public worried over high prices, that is too much. Yet half of these so-called profits cannot be used at all. They cannot be paid out in dividends, or used for plant expansion, or used to increase wages. In fact, if operating statements were to be a useful guide for either business policy or government policy, these inventory appreciations should not even be called profits.

In an earlier paragraph, reference was made to the fact that wages had gone up 150 per cent, profits 100 per cent. Neither of these figures had been adjusted for price changes. Now, after adjusting only for inventory revaluation, we find the profits increase for some recent periods to be not 100 per cent but only 50 per cent; and we have still not adjusted them for price changes to determine their real buying power.

But we can't fairly stop at this point. What has happened to accounts and notes receivable? Customers, in buying the same goods they bought before, pay more money or, if they receive credit, owe more money. Most of the difference represents additional working capital that must be kept tied up in the business. Therefore, these receivables must be adjusted for price changes, usually not the retail price changes which we use in appraising the changes in real wages, but something more like the wholesale price changes, which are even greater. Until profits figures are adjusted for these changes, they are not reliable guides to financial planning.

Of course, this isn't what controllers really do; they rather analyze the ways in which computed profits have already been used when they make plans for the future. But the public generally doesn't know that, and it is doubtful whether many of our most-careful government economists and statisticians know it. We surely could never expect labor-union negotiators to know it or to make allowance for it.

Up to this point, we have discussed only two items on

the balance sheet, the inventories and the receivables. For the purpose of determining business policy, however, it is hardly appropriate to stop short of analyzing the entire statement. Every item of working capital must be adjusted for some change in the price level. The depreciable assets must be analyzed with reference to replacement costs.

If we were to attempt to make this analysis for the entire country, we might well wonder whether we would in the end find that we had any profits that could be used. I personally would be very much surprised if we did not find that corporations have been paying dividends far in excess of real usable profits.

There are a number of serious practical difficulties that accountants would face if, in the computations of profits, they should attempt to make all of the adjustments suggested above. There would be less of the appearance of precision in the results. But the results would be more useful to business in formulating dividend policy, wage policy, expansion policy, and price policy. And government policy based on such profits computations would be less destructive of business; government would, among other things, be less tempted to increase taxes to wipe out the high profits that exist only in accounting and statistical computations.

In saying this I am assuming no change in the Bureau of Internal Revenue's definition of taxable income. The statistical estimates currently used are not based on that definition, but they do help public officials decide whether tax rates should be increased or not.

Study of Relation of Forests To Water Supply Needed

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of business, crop destruction, and loss of life. There are also losses in sedimentation of river channels and rich bottom lands, in erosion of headwater areas, in destruction of fish life.

Some water values depend on the kind of water. Different uses demand different amounts and different degrees of purity. For its municipal supply, Portland draws water from the Bull Run watershed—60 million gallons daily. This water has to be free from silt or from bacterial contamination and has to be available continuously. Most uses of water require that it be fairly clean and in regular supply. Both water condition or quality and water supply are important. Undersupply is drought and oversupply is flood. Both are expensive.

Portland goes to a stream that flows from a mountain watershed on forest land to get a steady supply of pure water. Mountain areas produce water surpluses—or crops—for use elsewhere because they have heavy rain and snowfall. To a certain extent forest cover controls the distribution of the water as streamflow, and very strongly controls the quality. The forest areas get about twice as much water as other areas; rainfall in the Willamette Valley averages 40 inches, rainfall on forest lands higher up 80 inches. The forest lands produce the streams and some of the underground waters that serve the lowlands. They furnish the water capital on which our agriculture and industry draw. Our forest lands provide the major part of the 20 million acre-feet average annual flow in the Willamette River.

A good part of the forest area that produces water is national forest; the water crop, therefore, is largely dependent on the management of the national forests. Areas included were originally set aside for purposes of water control. In the enabling legislation, water conservation was given priority over timber and range. So far, however, management has by public demand been directed at the crops showing direct cash returns. Management must also recognize that, in protecting and developing the water resource, it directly serves and protects the welfare of every member of the community.

We need forest-influences research now to define and solve the problems of water production, together with timber and forage production. We know in general what some of these problems are; we recognize the values at stake and the public interest involved. To give direction to our forest management before conditions change too greatly, we should find the answers to these problems.

Location determines the type of problem. In Oregon we have two major areas and accompanying problems. On the east side of the Cascades we have typically dry-country problems having to do with water supply for irrigation, with flash floods, with soil moisture control, with deterioration of forest and range soils, and with stream channel and reservoir sedimentation. More water is needed for irrigation, flood flows must be reduced and confined, productivity of our forests must be kept up. Reservoir storage space must be preserved, for reservoir sites are not plentiful and are also irreplaceable. Timber can be harvested by a variety of methods, from light selection cutting to extensive clear cutting—we need to know which are advantageous to water production. Specifically, we must study the effects of timber and forage-crop harvest on quantity and quality of water yields, the changes in forest cover as a result of the cutting or grazing system used, the effects of game animals on soil and water. Action now can prevent trouble later.

West-side or wet-country problems may not be so critical or so obvious but they exist just the same. Generally they include regulation of stream flow for power developments, maintenance of water quality for industrial use, stabilization of soil and prevention of erosion, maintenance of forest site quality, and control of water pollution. Flood damage may not occur often but it is highly important. In western Oregon we deal almost entirely with forest and not with range; we are interested in the effects of logging on soil compaction and erosion, in the effects of various systems of timber cutting on snow-pack accumulation and melt rate, in the effects of road building on erosion, in the effects of fire on flood production, in methods of slide stabilization, and in avalanche control. We want to know how our forest-land management can supplement the dams and channel works of other agencies in controlling flood waters, in reducing erosion, in providing more water for irrigation, and in regulating stream flow for the production

of hydroelectric power. We are questioned about these things from time to time and we do not have definite answers to give in reply. These problems need local study to meet local needs.

To a certain extent we can apply the findings of research from other areas. We have quite a bit of knowledge about these matters. From studies elsewhere we know that forest cover holds soil in place and slows down water flow. We know that road erosion increases road maintenance costs and causes trouble in drainage ways below. We know that silt in the streams kills trout and spoils the fishing, clogs streams, and causes flooding of the lowlands. We know that we can use vegetation to stabilize and pump water out of soils that slide and need anchorage and drainage. These things and others we may be aware of, but—

For this region we do not know the specific effects of a given cutting system on the snow pack, although it has been found elsewhere that forest thinning can increase the snow storage as much as 50 per cent. We do not know what plants are the best to use here in erosion control, though we know some that have been highly successful in other places. We do not know the comparative value of different kinds of vegetation in conserving soil moisture, which bears on whether or not we should let watershed slopes be clear cut, and if so by what pattern. We know very little about interception of rainfall by trees and brush, or about sedimentation rates in our streams, or about a variety of other pertinent matters.

There are dollars involved now. If a forested watershed can yield pure water, it can save high costs in water treatment for domestic or industrial use. Where the watershed is not in condition to produce the kind of water we need, the water we get becomes a manufactured product. Often it has to be desilted, purified, softened, and transported a considerable distance for our use. Water is not as free as the air; supplies of good quality are becoming relatively scarce as our demands increase.

What water we have we must preserve. Floods rushing to the sea represent a waste of a year's supply for many areas. How much is it worth to hold some of that runoff on the land? Oregon is a comparatively young pioneer state, just now beginning to grow. It is time now to find out how to save for the growth of the future. We must save water; for domestic, industrial, and agricultural requirements increase at a much greater rate than population. Without water we cannot live, and without a plentiful supply we cannot enjoy many of the things that are part of our modern life.

We must learn to manage our forest land with complete regard for all resources, evaluating each to its proper degree. Water is not the least. We are not now cognizant of all the problems here nor of their extent. We are not trained to cope with them, and we do not have forever to get ready. Experience in older and more intensively developed areas has shown time and again how easily little problems can quickly grow almost beyond solution.

It is the business of forest-influences research to outline the problems, to determine the knowledge needed for their solution, to get that knowledge, and to make it available for the use of the forest administrator. We can point up the general problems. We need basic data on water supply. That means weather stations and snow courses and stream gauges throughout the areas that produce water. We need data on land management. We know we can change total water yield of an area by considerable amounts according to the treatment we use, that we can similarly change seasonal distribution of water supply, and that we can change the quality from pure to mud. How, and by what steps, is for research to determine.

To summarize: (1) Water is a necessary and valuable resource. (2) Most of our water supply is produced on our forest lands. (3) Management of the forest lands with consideration of water as well as timber or forage or game is needed to help maintain the maximum flow of high-quality water evenly distributed throughout the seasons. (4) Uninformed management may lead to the reduction of potential water values and may increase minus values or damages. (5) Forest-influences research —in the field concerned with the relationship of forests and water—is needed now to provide the information that will orient management with regard to the water resource.

It is as simple as that. Correct water management permits increased agricultural yields and increased industrial production, as well as insuring pure domestic supplies for a growing population. With our stake in the future of this region, we should see our real interest in solving our water problems before they grow larger.

Oregon Gasoline Consumption Above National Average

By CHARLES L. SAUVIE[1]
University of Oregon

The general trend of gasoline consumption in Oregon has been upward from 1932 on, with the exception of the war period. The increase in consumption in the two postwar years has been quite marked. Per capita gasoline consumption has also followed this trend, except that the postwar increase in per capita consumption has not been as great as the increase in total consumption. These Oregon trends become more significant, however, when they are compared with the rest of the nation.

From 1932 until the war in 1941, the gasoline consumption of both Oregon and the nation had been increasing, although, as shown on the accompanying chart (page 6), Oregon had been increasing its consumption somewhat faster than the rest of the nation. After the start of the war and the adoption of gasoline rationing, the gasoline consumption of both Oregon and the nation began to fall. However, during the war years, the decline in consumption was

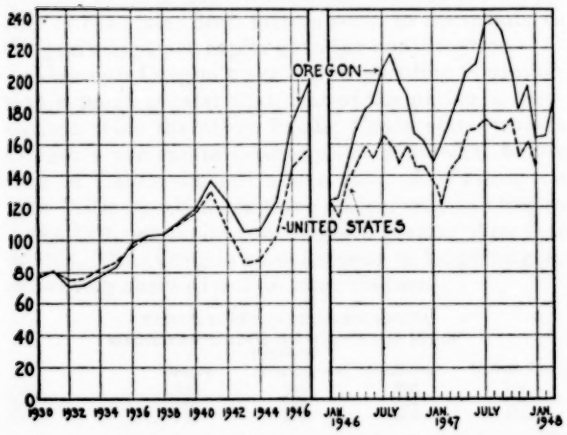
[1] Mr. Sauvie is a graduate student in economics at the University of Oregon. This is the second in a series of articles on Oregon economic development prepared under the direction of Dr. Paul W. Ellis, associate professor of economics at the University. The first appeared in the March 1948 issue.

relatively greater for the nation than for Oregon. In 1943, the year of lowest wartime consumption, Oregon's gasoline consumption was, in spite of the drop, 106 per cent of the 1935-1939 period, while the nation's consumption dropped to 86 per cent.

Effects of Population Changes. The fact that Oregon's wartime drop in consumption was not so great as the nation's may be partly due to differences in some rationing regulations on the West Coast and to differences in interpretation of other regulations by rationing boards in Oregon. More likely it was

GASOLINE CONSUMPTION, OREGON AND THE UNITED STATES*

Index numbers: 1935-1939=100



*Sources: Oregon Secretary of State, U. S. Bureau of Mines, and Public Roads Administration. Aviation-gasoline consumption is excluded, except in the United States data from 1946 to the present. United States data excluding aviation gasoline are not available currently on a monthly basis.

due to a greater reliance on private vehicles to get Oregon war workers to their jobs.[2] Another important factor is the large increase in the population of Oregon during the war years.[3]

This trend in population growth has continued in the two postwar years of 1946 and 1947, and in these same years gasoline consumption also has increased greatly. Thus, this postwar increase in gasoline consumption in Oregon is partly due to the continued population growth, as well as to the suspension of gasoline rationing, and the resumption of automobile production.[4] The importance of population growth in causing the postwar increase in gasoline consumption in Oregon can be shown further by considering the per capita consumption.

Every year since 1930—no attempt was made to carry the investigation earlier than 1930—the per capita consumption of Oregon has been above the national average (see Table 1). This may be accounted for by the fact that there is one motor car for every 3.1 persons in Oregon, while there is only one car for every 4.3 persons in the nation as a whole.[5] Furthermore, automobiles are used more, both for business and for pleasure, in Oregon, where the distances are greater and the means of public transportation, both intercity and intracity, are inferior to those found in parts of the country where the population is more concentrated.

Although the per capita gasoline consumption in Oregon was still above the national average in 1946 and 1947, in these two years the ratio of Oregon per capita gasoline consumption to that of the nation has been lower than in any year from 1930 to 1945 (see Table 1). In other words, without the large increase in postwar population, the increase in total gasoline consumption in Oregon would not have kept pace with the increase in total national consumption. However, there is no reason for assuming that Oregon's tendency to lag behind the national increase in per capita gasoline consumption is permanent, because the ratio of Oregon's per capita consumption to that of the nation in 1947 was greater than in 1946. Moreover, even this lower level could be caused by a number of postwar disturbances

TABLE 1. PER CAPITA GASOLINE CONSUMPTION*

	Oregon	*U. S.*	*Ratio of Oregon to U. S.*
	(gallons)		*(per cent)*
1930	174	135	129
1931	180	137	132
1932	163	127	128
1933	163	127	128
1934	168	136	124
1935	183	144	127
1936	207	158	131
1937	213	169	126
1938	212	169	125
1939	223	178	125
1940	236	188	126
1941	262	207	126
1942	228	167	136
1943	183	135	135
1944	178	141	127
1945	205	165	124
1946	259	221	117
1947	284	233	122

*Sources: Oregon State Secretary of State, U. S. Bureau of Mines, Public Roads Administration, and Bureau of the Census. The per capita figures used in this table differ from those used in Table 2 in that those in Table 2 are for private highway gasoline consumption only, while the figures in this table are for less restricted uses, including public and some non-highway uses.

that have upset prewar relationships. For example, the postwar ratio of gasoline consumption of Oregon to the nation would be lower if new automobiles were allocated on the basis of prewar demand, because this would not take into consideration Oegon's increase in population since 1941. Also, a large increase in national per capita gasoline consumption would have the effect of making the ration of Oregon consumption to that of the nation smaller.

Effects of Vacation Attractions. Another reason why Oregon has a higher per capita consumption of

[2] These conjectures seem to be justified by the consideration of the ratio of per capita gasoline consumption of Oregon to that of the nation. Even though per capita consumption declined in both Oregon and the nation during the war, the decline in Oregon was so much less than in the nation as a whole that for 1942 and 1943 the ratio of Oregon per capita consumption to that of the United States was higher than for any year, 1930 to 1947 (see Table 1).

[3] Oregon's population increased 15.5 per cent, from 1,139,166 in 1941 to 1,315,676 in 1945, while that of the nation decreased 0.8 per cent, from 133,060,045 in 1941 to 132,018,525 in 1945. The figures used are for civilian population and armed forces stationed within the United States. Source: U. S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P25, no. 2 (Aug. 15, 1947).

[4] Oregon's population has increased from 1,315,676 in 1945 to 1,517,000 in 1947. These figures are also for civilian population and armed forces stationed within the United States. Source: *Current Population Reports*, Series P25, no. 2 (Aug. 15, 1947), and Series P25, no. 4 (Oct. 12, 1947).

[5] These figures are compiled from data supplied by the Public Roads Administration and the U. S. Bureau of the Census and are for 1945, the last year for which the data are available.

gasoline than the national average is that relatively more gasoline is used by vacationing motorists in Oregon than in most of the other states. This would explain why, although both Oregon and the nation have seasonal peaks of gasoline consumption in the summer months, the Oregon peaks are much greater (see chart). Since Oregon's per capita gasoline consumption is determined by dividing the total sales of gasoline in the state by the state's population, the gasoline purchased by out-of-state visitors increases the sales without increasing the population, thus raising Oregon's per capita average. Thus one sees that a high per capita consumption can be due either to the driving habits of the citizens of Oregon or to a large number of visitors from outside of the state. Both factors seem to contribute to Oregon's high per capita gasoline consumption.

Although Oregon's per capita gasoline consumption is much greater than that of the nation, a comparison with the other Pacific Coast states shows Oregon's per capita consumption somewhat below that of California, but above that of Washington (see Table 2). Of these three states, only in Oregon is the 1946 per capita consumption greater than that of 1941. Thus Oregon would appear to be getting an increasing share of out-of-state visitors.

TABLE 2. PRIVATE PER CAPITA HIGHWAY GASOLINE CONSUMPTION*
(Gallons)

	Oregon	*Washington*	*California*	*United States*
1940	205	193	246	162
1941	226	209	264	178
1946	230	208	252	181

*Sources: Public Roads Administration and Bureau of the Census. The per capita figures used in this table differ from those in Table 1 in that these are for private highway gasoline consumption only, while those used in Table 1 are for less restricted uses, including public and some non-highway uses.

An Indicator of Business Activity. Gasoline consumption is one indicator of general business activity, but fluctuations in gasoline consumption are not so great from year to year as are some of the more-sensitive business indicators. However, for some industries closely connected with gasoline consumption, such as the tourist trades, gasoline consumption data should be a valuable source of information in helping these industries make business decisions.[6]

Increased Employment in Logging And Lumber Industry Expected

Employment in the Oregon logging and lumbering industry will increase about 6 per cent during the next four months period, according to employer interview reports received by the Oregon State Employment Service from 324 operators in this industry. These 324 firms employed 42,075 in mid-May, an increase of only about 1½ per cent over mid-March employment. Normally, employment in May would be up much more over March, but the boommen's strike and the wet weather has curtailed their activities.

[6] Gasoline consumption figures are available monthly and will be published regularly in the *Oregon Business Review* if there is sufficient demand.

Most operators submitting reports indicated that the boommen's strike was affecting production. A great many sawmills worked only two or three days a week and others kept maintenance crews working on repairs, alterations, and clean up. If the strike had continued, employment might have been seriously reduced. The boommen's strike in Oregon affected mostly only those operators from Salem north to the Columbia River area.

These 324 operators, responsible for about half the total employment in the logging and lumbering industry, forecast a need for 2,542 additional workers between mid-May and September. This is approximately a 6 per cent increase in employment for these firms. September is usually the peak month for logging and lumbering activity in Oregon, and November employment is expected to be down from the September peak. Although only a 6 per cent rise in employment is predicted, these 324 operators are the larger and more-established firms in the logging and lumbering industry with greater stability in employment, and it is probably that *total* employment in the industry will increase a great deal more than 6 per cent.

In the western Oregon fir region, 246 firms expect to increase their labor force by 1,563 or 5.1 per cent by mid-September. The 78 reporting firms in the eastern Oregon pine region expect to increase their employment by 979 workers or 8.2 per cent by mid-September. Both the western fir region and eastern pine region firms expect to have peak employment needs in September, with declines forecast for November.

June employment is expected to be up about 1,692 over May. When these employer interview reports were submitted, the boommen's strike was in progress and employers were reluctant to predict their needs until the strike was over, so these estimates could be low.

The supply of workers was sufficient, most operators report, part of replacements being those employees recalled from earlier layoffs. Applications for work at the gate and the Oregon State Employment Service placements were sufficient to fill most all other replacement needs. Some large operators predicted more quits when better weather arrives, caused by "gyppo" operators paying higher wages in order to get crews.

Several plywood firms report a curtailment in production, due to the lack of market for their product. Several prefabricated wooden-building manufacturers reported going out of business or changing to the manufacturing of other types of wood products.

Women employees constituted about 5 per cent of the workers in the industry. This ratio has been fairly constant for the last couple of years. Except for clerical positions, most women are employed in plywood plants and wooden-container manufacturing establishments.

Of 4,548 persons hired by these 324 operators during the month, the Oregon State Employment Service placed 368. The major part of these 4,548 hires were callbacks of former employees or "gate" hires. The 368 placements made by the O.S.E.S. to these 324 operators was 8.1 per cent of the total hires as compared to 5.1 per cent in April.

CURRENT BUSINESS TRENDS IN OREGON

Review of First Quarter, 1948. The Portland field office of the Department of Commerce has released a review of economic conditions in the district covering the first three months of this year. This review finds business activity during the period comparing favorably with that prevailing in the fourth quarter of last year. Seasonal factors reduced industrial production but by an amount less than normally expected.

The price declines experienced by agricultural products in late January and February were especially severe for grains, nuts, and fruits, all of which are important to Oregon farm income. Although grains have since shown a tendency to recover lost ground, fruit prices have continued a decline which began in mid-1947. Although agricultural income in general had not been materially affected by lower prices at the end of the first quarter of 1948, retail trade in the fruit areas was feeling the effect of fruit price declines.

Unemployment. At the end of May, logging and lumber operations accounted for nearly 23 per cent of the state's unemployment. Total unemployment-compensation payments to workers unable to find jobs declined nearly a third as compared to the previous month and were 7.5 per cent less than a year ago. But more food-processing employees were on the list than in any month this year, and three areas (Portland, Astoria, and Oregon City) experienced considerable increases in unemployment in the lumber industry. Construction showed the best back-to-work record of any seasonal industry, although the Portland, Salem, and Oregon City areas lagged.

Pulp and Paper Plant Employment. Employment in Oregon's pulp, paper, and paperboard plants has recovered in the past two years to slightly above the 1937 peak, while payrolls have more than doubled. The industry again employs well above 4,000 and the 1947 wage payments exceeded $13 million, with promises of substantially higher amounts this year. Veterans on vacation from school have been hired extensively by some plants in the industry, but the employment peak often comes quite late in the year. Women account for only 5.5 per cent of all employees.

Retail Sales. Portland department store sales were 11 per cent higher for the first twenty-two weeks of 1948 than for the same period a year ago. Changes in other Pacific Coast city department-store sales were: Los Angeles area, up 1 per cent; San Diego, up 11 per cent; Oakland, up 5 per cent; San Francisco, up 5 per cent; Seattle, up 3 per cent.

The Department of Commerce collects sales of a sample of retailers in many lines of trade in Portland and Union County. The most recent month for which these figures are available is April.

Kind of outlet	*Apr. 1948 from Apr. 1947*	*4 mos. 1948 from 4 mos. 1947*	*Apr. 1948 from Mar. 1948*
PORTLAND			
Total	+ 6	+ 4	0
Food	−10	− 5	− 3
Eating and drinking places	− 5	− 5	− 1
Department stores	+11	+ 6	+ 2
Apparel	−11	−12	− 6
Furniture-household-radio	+29	+13	+ 9
Lumber-building-hardware	0	+ 1	− 9
Motor-vehicle dealers	+15	+13	+ 2
Drug stores	− 4	+ 3	− 9
Liquor stores	− 5	− 5	− 1
Jewelry stores	−28	−20	− 6
UNION COUNTY			
Total	+11	+ 2	+11

Lumber. Widespread increased demand for Douglas fir lumber, stimulated by improved building weather throughout the nation, has caused a sharp upturn in shipments from Oregon and Washington sawmills. Shipments for the first four months of 1948 totaled 2,847,333,000 feet, topping the same period of 1947 by 143 million feet.

Record postwar production from West Coast sawmills continued, with a four months' output of 2,775,188,000 feet, exceeding last year's cut for the same period by over 270 million feet. Weekly production for April averaged 148,339,000 feet as against a 176,036,000 feet weekly average for March. Curtailed lumber cut in April was due in part to the boom strike.

BANK DEBITS

Bank debits represent the dollar value of the checks drawn against individual deposits. Approximately 90 per cent of all goods, property, and services is paid for by check. Bank debits are regarded as indicators of the general trend of business, though their value for this purpose may be impaired by substantial changes in the level of prices. The Bureau of Business Research collects bank debits from 92 banks and branches monthly. On occasion, the totals for the same month in different issues of the *Review* are not directly comparable because of necessary adjustments in basic data.

Marketing Districts	*Number of Banks Reporting*	*Debits Apr. 1948*	*Debits Apr. 1947*	*Debits Mar. 1948*	*Apr. 1948 compared with Apr. 1947*	*Apr. 1948 compared with Mar. 1948*
Oregon	85	$913,440,997	$823,256,685	$902,343,035	+10.9%	+ 1.2%
Portland (Portland, Hillsboro, Oregon City, etc.)	25	601,289,954	530,843,634	573,063,877	+13.3	+ 4.9
Lower Willamette Valley (Salem, McMinnville, etc.)	9	76,647,615	67,720,104	72,130,238	+13.2	+ 6.3
Upper Willamette Valley (Albany, Corvallis, Eugene, etc.)	8	61,126,651	65,700,446	74,986,374	− 7.0	−18.5
North Oregon Coast (Astoria, Tillamook, etc.)	5	20,746,342	18,366,263	20,884,203	+12.9	− 0.7
Douglas, Coos Bay	5	25,188,948	22,325,864	25,846,240	+12.8	− 2.6
Southern Oregon (Ashland, Medford, Grants Pass)	5	35,316,689	34,516,953	37,589,926	+ 2.3	− 6.1
Upper Columbia River (The Dalles, Hood River, etc.)	6	14,254,190	13,585,279	14,401,440	+ 4.9	− 1.0
Pendleton area	6	15,284,634	16,422,098	15,790,931	− 7.0	− 3.2
Central Oregon (Bend, Prineville, Redmond)	3	12,392,599	9,666,040	14,342,198	+28.2	−13.6
Klamath Falls, Lakeview area	4	25,006,812	22,549,590	27,796,415	+10.9	− 1.0
Baker, LaGrande area	6	15,962,320	14,670,185	15,742,191	+ 8.8	+ 1.4
Burns, Ontario, Nyssa	3	10,224,243	6,890,229	9,769,002	+48.3	+ 4.7

BUILDING PERMITS

Building permits give an indication of building operations planned rather than actual construction under way. Care must be taken, in interpreting these data, to allow for the lag which may elapse between the issuance of the permit and the beginning of actual construction. The data have been collected by the Bureau of Business Research.

	New Residential Apr. 1948	*New Nonresidential Apr. 1948*	*Additions, Alterations & Repairs Apr. 1948*	*Totals Apr. 1948*	*Totals Apr. 1947*	*Totals Mar. 1948*
Astoria	$ 41,000	$	$ 6,800	$ 47,800	$ 47,515	$ 52,255
Baker	30,700	21,600	46,814	99,114	13,800	26,140
Bend	86,800	17,850	12,515	117,165	61,775	132,370
Coos Bay	33,084	8,000	12,150	53,234	38,900	39,610
Corvallis	74,000	22,950	9,275	106,225	85,200	49,595
Eugene	395,000	143,250	52,183	590,433	268,685	1,304,762
Grants Pass	76,155	328,700	3,815	408,670	75,470	151,509
Klamath Falls	67,000	6,850	49,265	123,115	68,460	118,024
LaGrande	6,300	700	9,672	16,672	48,605	6,775
Medford	98,300	194,650	62,953	355,903	94,313	384,465
Oregon City	20,400	50,600	5,500	76,500	38,600	40,370
Pendleton	74,812	11,300	9,055	95,167	98,715	88,945
Portland	3,772,500	952,630	520,985	5,246,115	2,283,250	7,274,045
Salem	314,100	400,625	20,224	734,949	214,828	481,800
The Dalles	29,700	57,000	14,550	101,250	46,430	94,675
19 other communities	524,250	517,350	270,837	1,312,437	544,700	624,500
Totals	$5,644,101	$2,734,055	$1,106,593	$9,484,749	$4,029,246	$10,869,840